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ABSTRACT

The instructional designer (ID) plays a critical role in the development and viability of each course taught at a distance, particularly in the incorporation of immediacy behaviors, or communication behaviors that convey approachability and communicate interpersonal warmth and closeness. Faculty development must be fostered to encourage immediacy behaviors for the distance instructor. Immediacy must be part of the infrastructure that provides the interactive television system, and IDs must be involved in establishing the infrastructure. The attributes of the technology must be clearly recognized by IDs so that they can be used to their greatest advantage. The ID also must consider the people-related issues, whether they involve students or faculty. Faculty development provides the opportunity for distance education instructors to learn to exploit the attributes of video conference technologies and to practice using the technology. (Contains 9 references.) (SLD)

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The Critical Role of the ID in Interactive Television: The Value of Immediacy

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The Critical Role of the ID in Interactive Television:
The Value of Immediacy

Introduction

Interactive television, or video conferencing, includes compressed digital video conferencing, ITFS, and microwave television. Video conferencing has opened new avenues for delivering high quality instruction to greater numbers of students in higher education. This is true at the University of Wyoming and in several other states where video conferencing has been instituted statewide in higher education. With the potential for offering high quality instruction to large numbers of higher education students, however, has come challenges to the administration, to instructors, and even to the students. One of these challenges is to minimize barriers to learning at a distance, as distant students tend to feel isolated and left out. Whittington's (1987) research shows that no significant difference is found between learning outcomes in face-to-face instruction and in instruction that is mediated by technology. However, wide gaps do exist in student attitudes toward learning, some of which have been shown to influence student achievement.

While it may be possible for campus-based instructors to get away with lecturing for three hours each week in class, this kind of approach is totally inappropriate for instructors teaching via video conferencing. Can you imagine trying to learn by watching a television monitor from across a large room for such extended periods of time? The challenge to the distance instructor becomes even greater when the instruction is primarily lecture, with some charts, graphs, and text to "liven up" the lesson. It is particularly important for distance instructors to incorporate behaviors in their teaching that will reduce the learners' sense of physical and psychological distance.

One way to reduce this sense of distance is for instructors to use immediacy behaviors, or communication behaviors that "enhance closeness to and nonverbal interaction with another" (Mehrabian, 1969). Immediacy behaviors convey approachability and communicate interpersonal warmth and closeness. Typical immediacy behaviors include the use of a variety of vocal expressions when teaching, having a relaxed body position when talking to the class, and smiling at the class as a whole. The "social presence," or the ability to approximate the characteristics of face-to-face interaction, is obviously limited in mediated instruction. Correlations have been found between immediacy and student expectancies (Giglio & Lustig, 1987) and between immediacy and student motivation (Christophel, 1990), which in turn result in higher achievement. Thus, instructors who employ immediacy strategies to increase

perceived social presence are likely to enhance both student learning and satisfaction in video conferencing classes.

A key figure in increasing immediacy behaviors among distance teaching faculty is the instructional designer. This individual plays a critical role in the development and continuing viability of each course taught at a distance. The role of the instructional designer has three components: in relationship to the infrastructure, in relationship to the technology, and in relationship to people--specifically, students and faculty. First we will discuss the relevance of immediacy behaviors to distance education, particularly in video conferencing environments. Following is a discussion of ways that the instructional designer can help foster immediacy teaching behaviors through the infrastructure, the technology, and the people involved in video conferencing.

While the focus is on interactive video conferencing, similar strategies can be used to achieve similar results with less interactive distance teaching technologies. These "non-interactive" technologies include one-way video transmission, either through satellite teleconferencing or broadcast or cable television, or even videotapes. All of these technologies are usually supplemented with printed materials which are sent to students at their distance learning locations.

Immediacy in the Context of Distance Education

Compelling evidence exists in traditional face-to-face learning contexts that decreased physical and/or psychological distance between teachers and students is associated with enhanced learning outcomes. Lawrence Rifkind (1992) summarized research on immediacy as a predictor of teacher effectiveness and learner achievement in the interactive television classroom. Studies primarily in the area of communication have found positive correlations between immediacy and cognitive achievement as well as between interactive television system design and cognitive achievement (e.g., Christophel, 1990; Giglio & Lustig, 1987; Gorham, 1988).

Mediated learning is most effective when students perceive a personal involvement in the educational process. Helping distant students become personally involved in their mediated education is achieved through "guided didactic conversation" (Holmberg, 1984). Holmberg describes internalized conversation as occurring through interaction with course material, and externalized interaction as conducted directly with the instructor verbally by telephone or other telecommunication means. In addition to these two forms of interaction, it is generally understood that a third type of interaction is conducive to learning and is particularly important in distance education:

interaction among the learners themselves (Moore, 1989). University of Wyoming course evaluations indicate that when students interact with other students in the class, they find the class both intellectually stimulating and personally relevant (Farr, 1992). While the instructor may not play a strong role in this kind of interaction, the sense of immediacy is clearly present within the local groups.

How can distance faculty guide their students' didactic conversation? Unfortunately, faculty members designated as distance education instructors typically lack the knowledge and expertise to adapt their courses successfully to distance delivery on their own (Farr, Murphy & Flatt, 1992). Therefore, faculty development needs to occur. Faculty development should focus on the concept of immediacy to engage students in didactic conversation. Students who engage in didactic conversation (with the instructor, the content, or each other) are likely to perceive their personal involvement in the learning process as more satisfactory.

Immediacy and the Infrastructure

Instructional designers are a vital part of the infrastructure that provides the interactive television system. These individuals should participate in the decision-making that will impact policy statewide. They are more likely to have firsthand knowledge of the factors that influence scheduling, faculty needs, new product development, and technological problems. With this knowledge base, instructional designers can assist distance education instructors in identifying and practicing the kinds of teaching strategies that enhance immediacy.

In Wyoming, the infrastructure includes the following: the seven community colleges (which together with the University of Wyoming comprise the current state telecommunications network); six academic coordinators who are located at community colleges; colleges and departments at the University of Wyoming; other users on campus; the state telecommunications system; the telecommunications service provider; and the vendor.

At the University of Wyoming, the instructional designers were involved tangentially in the decision-making regarding the purchase of the compressed digital video conference equipment. Since the purchase and installation of the equipment, however, the instructional designers have been involved in literally all aspects of the infrastructure. The instructional designer maintains contact with the students at all sites, first through a student orientation and subsequently by monitoring individual sessions and conducting formative evaluations. These forms of contact are particularly pertinent in promoting

immediacy behaviors of students whether they meet face-to-face with their instructor or learn at a distance. The responsibilities of the instructional designer associated with the infrastructure include:

* providing a student orientation and monitoring classes;
* conducting live formative evaluations in courses;
* spearheading weekly conference calls with the State Division of Telecommunications and US West;
* arranging and conducting workshops for academic coordinators, instructors, and administrators on the use of the system;
* maintaining ongoing contact with the far-flung academic coordinators and the site facilitators, and on-campus producer/directors and engineers;
* monitoring and integrating audio, video, and computer-based technologies.

Immediacy and the Technology

The technology of compressed digital video conferencing is fairly recent in higher education, although business and industry have been using the technology for over a decade. The University of Wyoming has recently implemented a statewide compressed video conferencing system. What are the critical attributes of video conferencing?

* Video conferencing provides two-way interactive video and audio transmission among two or more sites simultaneously. That means that students in widespread locations can see and hear their instructor as well as each other almost as if they were in the same room.

* Video conferencing also enables live transmission and annotation of text and graphics. Instructors and students can use a hand-held control to activate a special camera that transmits images and graphics to the other sites. Then they can annotate these "slides" from their own locations using a graphics pad and pen.

* The same hand-held remote control can be used to zoom in on the face of a speaker.

* Peripherals enable films and videotapes to be shown in real time over the system.

* Because video conferencing is PC-based, the system allows the demonstration of computer software in a point-to-point conference by

means of telecommunications programs such as PCAnywhere. In addition, instructors can show slides of the software program to all students in multi-point conferences.

* Video conferencing digitizes video and sound, which are sent over telephone lines to other locations, where they are converted back to images and sound. Because the entire picture is not being transmitted continually as in the case of broadcast video, the images and sound seem to be slightly distorted.

How can these attributes be used to foster immediacy in distance teaching/learning contexts? Instructional designers can assist faculty, students, and even producer/directors and camera operators in exploring and capitalizing on the attributes of video conferencing.

The University of Wyoming instructional design procedure connected with the technology follows: The instructional designer him/herself must first learn to use the technology. Then the instructional designer must figure out teaching strategies that exploit these attributes. Next the instructional designer works with individual instructors on their needs, objectives, and teaching strategies. Only then can the instructional designer help an instructor select and practice immediacy behaviors with the technology.

Specific ways that the instructional designer can exploit the attributes of video conferencing to foster immediacy behaviors include:

* Teach instructors and students to use the equipment so that they can send and receive slides and graphics, and use the graphics tablet for annotating graphics.

* Train site facilitators, or monitors at each receiving location to assist the instructor in the use of the technology.

* Work with a camera operator, the instructor, or a facilitator who does the camera work at the teaching site to pan around or zoom in for extreme close-up of the face of the instructor.

* Work with a producer/director in a television studio to use visual effects to show the instructor's graphics and the face of the instructor simultaneously. These effects avoid having students at receiving locations view only the graphics for extended periods of time.

* Ensure that students are seated so that they can view the monitors comfortably. Students should also have easy access to microphones and

be trained in advance in the use of the microphones to avoid "microphobia."

* Ensure that instructors use hands-free microphones so that they can devote their attention to teaching, interacting with students, and using the equipment effectively.

Immediacy and the People

Students

At the beginning or even prior to the first class session, the instructional designer conducts an orientation to learning via video conferencing. This orientation may include a training videotape. Orientation sessions should enable students to practice using the video and audio equipment, including microphones, and ideally should provide guidelines to success in learning via video conferencing.

The instructional designer must ensure that site facilitators are well trained in the use of video conference equipment. At a receiving location, the site facilitator, whose primary responsibility is to assist the instructor, can also act as an advocate of the students. During class sessions these facilitators can inform the instructor when shy students want to participate but may be reluctant to speak up or use the microphone. Outside of class they can help students design graphics that are appropriate for the medium and provide practice with the graphics pad and pen as the students prepare for their presentations.

Faculty

Faculty members often need to be convinced to teach via video conference. Once convinced, they need to learn to alter their teaching methods to be more appropriate for teaching via video conference. Distance teaching faculty have been found to be preoccupied with determining the course content and matching the content to the time available, with little attention paid to the delivery of instruction and the intended learning outcomes (Wolcott, 1991). As described earlier, the core of faculty development should be immediacy behaviors to engage students in didactic conversation. Faculty development involves identification of ways to exploit the attributes of the technology with the intention of creating a positive learning environment for all distant students. Instructional designers should help faculty focus on the three modes of interaction: instructor-students, student-student, and content-student (Moore, 1989).

Following is a description of the faculty development process at the University of Wyoming. This process helps the faculty look at the distance learner as the nucleus. The instructor receives assistance from the instructional designer through workshops and individual sessions, from the office through its coordination, and from evaluations.

Workshops - Faculty development workshops occur in two parts. The first part focuses on general information about distance education, including information about the ways that the system is coordinated at the university and throughout the state. In this part the instructional designer doesn't teach specifically about any given distance education technology. Instead, the faculty are introduced to the philosophy of distance education, they gain an overview of all delivery systems, and they learn what is required of them to prepare for their course, which they will teach the following semester. This segment is conducted by video conference, so that faculty who will teach from other sites can participate as well. Thus the faculty are introduced to a technology by using it, and they observe appropriate teaching strategies and behaviors that the instructional designer models for them.

The followup part of faculty development workshops focuses on applications to specific delivery systems. Instructors planning to teach via video conference participate in a video conference workshop. The focus of this workshop is on the course presentation by that particular delivery system. The faculty gain expertise in using the technology that they will use in teaching while demonstrating and receiving feedback on a specific teaching strategy. Experienced teleconferencing faculty join inexperienced faculty in these workshops to share ideas and expertise.

Individual sessions - These sessions with faculty begin with what is termed a pre-production planning meeting. Topics of discussion begin with the instructor's teaching or learning objectives. They include teaching techniques, any special demonstrations or projects, and media presentation issues. Instructors bring to this meeting the following: the course syllabus, an outline of the first session, and samples of graphics and other visual aids that they plan to use. A followup individual session usually consists of a practice video taping session that takes place in the television classroom. For instructors who will teach via video conferencing, this session simulates a video conference, so that the instructor can view their videotape in compression format. It is imperative in this session that faculty evaluate their videotapes for the presence or absence of immediacy behaviors. For example, they observe whether they maintain eye contact with the camera, or how they encourage or discourage student participation.

Office coordination - The Office of Off-campus Credit Courses, in the School of Extended Studies and Public Service, provides coordination and assistance to each faculty member. These services include scheduling, providing course sites with all the necessary course information and supplies, publicity, registration, and media personnel. While the significance of office procedures may not be readily apparent, a timely response to instructors' and students' requests is imperative to the smooth functioning of a course.

Evaluations - Evaluations occur in each course. The instructional designer conducts live formative evaluations approximately one-third of the way through the course. The purpose of the formative evaluations is to detect any problems associated with the delivery of the course, so that the problems can be addressed. In video conference classes the formative evaluation is conducted over the video conference system. Instructors receive a typed transcription of their students' discussion. These evaluations provide the students with an opportunity to look critically at the course as a whole and offer relevant suggestions. At the University of Wyoming the instructional designer asks these three questions:

1. What do you like about the course so far this semester?
2. What don't you like about the course so far this semester?
3. How would you recommend that changes be made?

Summative evaluations are administered in written form at the end of the course. Students address demographic issues followed by questions related to aspects of learning, the technology, interaction, satisfaction, and future recommendations about such courses.

In general, an instructional designer at the University of Wyoming monitors the progress of a course by remaining in contact with the producer/directors, academic coordinators, site facilitators, students, and certainly the instructors. Instructional designers at the University of Wyoming begin with the assumption that everyone wants to be a good teacher, with the result that distance teaching faculty typically improve their teaching and teaching evaluations. Standard faculty development strategies at the University of Wyoming (Farr, Murphy, & Flatt, 1992) include the following:

* Videotape practice sessions
* Encourage mentoring
* Brainstorm ideas
* Accentuate the positive
* Enable faculty to work with groups from the same discipline
* Help faculty think from students' perspective
* Provide "resources" not available on campus

* Save the instructor's time
* Offer opportunities for research
* Conduct formative as well as summative evaluations

Summary

Faculty development provides the opportunity for distance education instructors to learn to exploit the attributes of video conference technologies and to practice using the technology. From instructional designers the instructors also learn ways to incorporate communication behaviors in their teaching that will increase social presence while reducing the learners' sense of physical and psychological distance. Some immediacy teaching behaviors that have been used effectively in video conferencing contexts follow.

* Provide telephone office hours
* Provide written comments to students on assignments/exams
* Use personal examples
* Use "we"
* Smile
* Maintain relaxed body posture
* Use hand gestures
* Lean toward camera
* Maintain eye contact with the camera
* Use a variety of vocal expressions
* Use humor
* Encourage participation
* Ask questions
* Ask students their feelings about assignments, deadlines, or discussion topics

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